

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

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Listing of Claims:

1. (currently amended) An aircraft, comprising:
 - a fuel source configured to provide a fuel;
 - 10 an oxidizer source configured to provide an oxidizer;
 - a fuel cell configured to react the fuel with the oxidizer to operate at a given power-generation rate; and
 - a controller configured to regulate the reaction pressure of a reactant of the group consisting of the fuel and the oxidizer;
 - 15 wherein ~~the controller is configured to regulate~~ the reaction pressure ~~is regulated~~ to be less than one atmosphere with the aircraft at a cruise altitude and the fuel cell operating at the given power-generation rate.
2. (previously presented) The aircraft of claim 1, wherein the cruise altitude is in the
20 range of 55,000 to 70,000 feet.
3. (previously presented) The aircraft of claim 1, wherein the reaction pressure of the reactant is not greater than 11 psia.
- 25 4. (previously presented) The aircraft of claim 1, wherein the reaction pressure of the fuel is not greater than 11 psia, and wherein the reaction pressure of the oxidizer is not greater than 11 psia.
- 30 5. (previously presented) The aircraft of claim 1, wherein the reaction pressure of the reactant is not greater than 10 psia.

6. (previously presented) The aircraft of claim 1, wherein the reaction pressure of the fuel is not greater than 10 psia, and wherein the reaction pressure of the oxidizer is not greater than 10 psia.

5 7. (previously presented) The aircraft of claim 1, wherein the reaction pressure of the reactant is not greater than 6 psia.

8. (previously presented) The aircraft of claim 1, wherein the reaction pressure of the reactant is approximately 6 psia and the cruise altitude is in the range of 55,000 to 70,000 feet.

9. (previously presented) The aircraft of claim 1, wherein the controller is further configured to regulate the reaction pressure of the reactant in response to the power requirements of the aircraft.

10 10. (previously presented) The aircraft of claim 1, wherein the oxidizer source comprises an inlet for ambient air and a compression mechanism configured to compress the ambient air.

20 11. (previously presented) The aircraft of claim 10, wherein the controller is further configured to regulate the reaction pressure of the oxidizer by regulating the amount by which the compression mechanism compresses the ambient air.

25 12. (previously presented) The aircraft of claim 1, wherein the fuel source comprises a hydrogen tank containing liquid hydrogen, and a heat source for controllably boiling the liquid hydrogen.

30 13. (previously presented) The aircraft of claim 12, wherein the controller is further configured to regulate the reaction pressure of the fuel by regulating the rate at which the heater boils the liquid hydrogen.

14. (previously presented) The aircraft of claim 1, wherein the controller is further configured to regulate the reaction pressure of the fuel to be no greater than a predetermined increment above the reaction pressure of the oxidizer.

5 15. (previously presented) The aircraft of claim 1, wherein:

the oxidizer source comprises an inlet for ambient air and a compression mechanism configured to compress the ambient air;

the fuel source comprises a hydrogen tank containing liquid hydrogen, and a heat source for controllably boiling the liquid hydrogen; and

10 the controller is further configured to regulate the reaction pressure of the oxidizer by regulating the amount by which the compression mechanism compresses the ambient air, and to regulate the reaction pressure of the fuel by regulating the rate at which the heater boils the liquid hydrogen; and

15 the controller is further configured to regulate the reaction pressures of the fuel and the oxidizer such that the power-generation rate of the fuel cell varies in response to the power requirements of the aircraft, and the reaction pressure of the fuel is no greater than a predetermined increment above the reaction pressure of the oxidizer.

20 16. (previously presented) The aircraft of claim 15, wherein, with a cruise altitude in the range of 55,000 to 70,000 feet, the reaction pressure of the oxidizer is approximately 6 psia, and the predetermined increment is approximately 4-5 psi.

17. (previously presented) An aircraft, comprising:

a hydrogen source including a hydrogen tank and a mechanism configured to regulate delivery of hydrogen from the hydrogen tank;

an oxygen source including a compression mechanism configured to compress ambient air from outside of the aircraft;

a fuel cell configured to react hydrogen from the hydrogen tank with oxygen from the compression mechanism to generate power; and

a control system configured to control the operation of the hydrogen source and the oxygen source at a given aircraft flight condition such that the fuel cell reacts oxygen at a first reaction pressure with hydrogen at a second reaction pressure, wherein the first reaction pressure is less than one atmosphere, and wherein the difference between the first reaction pressure and the second reaction pressure is no greater than a predetermined limit.

18. (previously presented) The aircraft of claim 17, wherein the second reaction pressure is less than one atmosphere.

19. (previously presented) The aircraft of claim 17, wherein the control system is configured to vary the first and second pressures based on power requirements of the aircraft.

20. (previously presented) The aircraft of claim 19, wherein the control system is configured such that at a stratospheric flight condition, the first pressure is approximately 6 psia, and the predetermined limit is not greater than 5 psi.

21. - 39. (canceled)